

Ready to Modernize IT? Start With Automation.

Companies today, across industries, are dealing with a lot of challenges.

They are under pressure to improve operations and the customer experience, hasten time to market, and be more innovative — all while operating in a constantly changing business climate. IT has always been a central player in helping companies move forward, and lately there’s been a steady drumbeat to digitize and modernize IT operations so organizations can overcome the challenges and achieve their business objectives. If only it were that simple.

There are also budgetary constraints and limited expertise that can slow progress. These issues are becoming even more prominent as the global health crisis impacts every facet of business.

A long list of obstacles doesn’t have to stand in the way of modernization, however. A smart place to start is IT automation, which uses software bots to carry out tasks, with little to no human intervention. And adding IT automation doesn’t require wholesale changes to infrastructure, nor does it have to be too costly. But a successful implementation does require planning and know-how. In this paper, we’ll:



Identify key steps you need to take before starting an enterprise IT automation initiative



Provide tips to help you determine what to automate and which tools you might use



Offer best practices to ensure your IT automation strategy and execution meets your needs

Automation delivers simplified, secure, scalable, and strategic IT.

Also known as infrastructure automation, IT automation can deliver a variety of benefits. By reducing or replacing time-consuming, repetitive human tasks with software-enabled instructions and processes that are repeatable, scalable, and simplify the IT environment, you can:



Streamline and optimize IT functionality



Improve provisioning speed and network efficiencies and throughput



Manage your IT estate more effectively



Speed up deployment cycles by simplifying and accelerating provisioning



Enable dynamic IT environments that meet business needs



Accelerate application development



Deliver more resilient cloud, storage, compute, and network resources



Free up employees for more strategic work

With the many benefits IT automation promises, it's no surprise that it has caught the attention of industry and IT leaders.

According to a recent survey by market research firm IDG and commissioned by Insight, "The State of IT Modernization 2020," over half of organizations' ongoing changes to cloud strategies in 2019 involved increased automation for the goal of supporting scale-out, automating cloud deployments, facilitating recovery, enabling fast-fail rollback, etc.¹ The survey was conducted to evaluate the state of IT modernization efforts in several areas, including an operating model involving centers of data spanning on-premises, cloud, edge, etc.; application modernization preparations; and IT processes.

One of IT automation's biggest benefits is that it creates greater opportunities for transformation — which will become increasingly apparent as the move toward automation continues to grow in significance. Gartner states:



"By 2023, 40% of I&O teams will use AI-augmented automation in large enterprises, resulting in higher IT productivity with greater agility and scalability."²



"By 2025, more than 90% of enterprises will have an automation architect, up from less than 20% today."³



"By 2024, organizations will lower operational costs by 30% by combining hyperautomation technologies with redesigned operational processes."⁴

In fact, automation has become such a key player in IT transformation that organizations that are slow to adopt automation capabilities often find their application modernization efforts are inhibited. Results from "The State of IT Modernization 2020" indicate that the absence of foundational needs for containerization and automation is the top obstacle to executing on an application modernization strategy. Additionally, 40% of respondents cited the lack of integrated tool sets to support new processes such as automation and orchestration as a major hurdle in supporting IT process modernization.¹

First steps to IT automation

Before embarking on any automation initiative, it is best to evaluate your entire IT infrastructure estate and analyze how well it is working for your business. Is your infrastructure enabling your business goals? Does it serve your customer experience well? Is your IT team spending too much time in maintenance mode and not enough time innovating? What are your specific pain points? A comprehensive discovery phase will give you better insight into your data center and other IT assets, interdependencies, and requirements.

Once you've analyzed where things stand and how well your organization's business processes, workflows, and services deliveries are running, consider where improvements and adjustments can be made and how automating might help. Goals might include improving speed to delivery, IT performance, or enabling some self-service IT capabilities that automatically provision resources so developers, for example, can significantly shorten application development times.

Start with small-scale, shorter projects within your internal IT process.

Look for opportunities that have the potential to deliver positive returns and that will automate low-skill, manual, and repeatable tasks. These are the types of tasks that typically consume a fair portion of your IT team's time. And, your IT team will gain critical experience with automation before you expand automation to other areas.

Key automation opportunities



Automated workflows

Workflow automation, which automates tasks within processes based on pre-defined business rules, can improve productivity, accuracy, accountability, and even job satisfaction. Workflow automation software can be used for IT service requests, change requests, new account setups, or security incidents.

Automated workflows lead to better patient care.

Insight helped a healthcare organization deploy and manage hundreds of thousands of mobile devices for its care teams. Custom Python® and Swift® scripts were developed to automate the necessary tasks at scale throughout the workflow, including device preparation and enrollment into a digital workspace platform, as well as a health check that verified a device was in the desired state before workflow completion.

The precision in deploying and managing all of their mobile devices means the healthcare organization will now realize more than \$3 million in cost savings each year. More importantly, its clinical teams are better able to communicate and collaborate, and in turn are better able to provide exceptional patient care.



Security

You can automate the steps involved with enacting security, compliance, and risk management policies and actions across your enterprise. That way, you can programmatically detect, investigate, and remediate cyberthreats with or without human intervention. For example, you can use automated scripts for firewalls that ensure ports are locked down across multiple security devices when a threat is discovered.

Automation can be used to help identify, prioritize, and mitigate incoming threats as they happen.

Securing endpoints — any internet-connected piece of hardware like a laptop, computer, tablet, printer, smartphone, thin client, or even a POS system — has become increasingly critical, considering the myriad endpoints organizations have. Newer **endpoint security software** can include automated response workflows to systematically disinfect, remediate, and restore infected endpoints as well as advanced technologies like behavioral and reputation-based analysis to detect advanced threats.

Eliminate manual tasks for better security compliance

Insight partnered with a pharmaceutical research organization to help it upgrade and improve the security of its entire network infrastructure when the organization moved into a brand-new site. The engagement started with several assessments to get a comprehensive understanding of the client's environment, challenges, and objectives, and finished with a new modernized, highly secure infrastructure. Many of the manual tasks involved with securing their network infrastructure have been reduced through automation, including fully automated client enrollment and configuration and switch configuration.

With network authentication, installs, moves, adds, and changes occurring autonomously, the IT team can reallocate newly available internal resources for more strategic projects. A sophisticated segmentation engine and processes are also now in place to vastly improve the firm's security. This was a critical business move considering the demands they face from regulatory agencies to maintain standards of care, privacy, and compliance.



Application development and management

Automation can really accelerate the time it takes to develop applications, and it can also be used to simplify and streamline application deployment, management, and maintenance.

There are plenty of opportunities throughout the traditional application development pipeline, and DevOps has definitely created a process and culture that spotlights those possibilities. But again, it can be too overwhelming to try and automate multiple tasks in the entire pipeline, from start to finish. It may be best to focus on those tasks that occur early in the process, such as commit and build or testing. Later, as the application nears production, you might consider layering in automation with automation-enabling technologies such as [Ansible](#)[®].

Ansible is an open-source, simple automation language that can help you consistently, reliably, and securely manage your environment. It is easy to use, install, and configure, and can help you automate storage, servers, and networking components so that manual tasks become repeatable and less vulnerable to error. Configurations using Ansible are simple data descriptions, and the tool does not require any agent software.

Achieve agility with automation

When moving to a new location for its corporate headquarters, a multibillion-dollar luxury home builder wanted to transition from an on-premises data center to a colocation facility that would lay the groundwork for a modernized and agile environment and deliver the speed and efficiency the company needs.

[Insight Cloud + Data Center Transformation \(CDCT\)](#) partnered with the builder to guide it through the transition. Insight implemented Cisco ACI[®], an automation model that makes it easier to deploy, scale, and manage containerized applications while still offering the necessary controls, visibility, security, and isolation. Cisco ACI delivers automated load balancing through policy-based routing and software-based approaches that improve performance. With the increased flexibility and freed-up resources, the IT team is in a better position to flex and scale on demand, enhance services, and drive innovation — critical actions in an industry shaped by fluctuation and turbulence.

Automation also frees time and resources when it comes to provisioning applications. It doesn't matter whether you are dealing with bare metal or cloud, you still have to set up the environment so it's ready for applications. This process has typically been performed manually with templates; now, you can run an automated system using codification to do the work for you. And configuration management can automate ad hoc scripts and practices that document what all the systems look like, so the provisioning is repeatable and effective. For more complex environments, orchestration may be used to combine multiple automated tasks and their configurations across groups of systems.



Governance and compliance considerations in respect to automation

Part of your plan for automation should include examining governance and compliance processes, such as the management of your operating systems' security and compliance, to determine where automation might fit in and the impact it may have. Be sure and correlate any automation solutions with existing corporate policies and IT governance processes that pertain to regulatory compliance. Ultimately, all processes need to be governed to ensure proper checks and balances are in place and prevent an automation oversight that could expose your organization to risk through noncompliance.

See how compliance and governance priorities can arise as you automate workflows, security, and application development and management

Example 1:

If automation causes configuration drift that creates discrepancies, it could introduce risks or make it difficult to account for resource allocation. Configuration drift can occur when changes are made to applications and underlying infrastructure — such as opening a new communication port to enable an app update. If the drift, or change, goes against corporate security policies, there could be significant risk to the organization.

Example 2:

Approval workflows or chargeback systems may need to be created to support various automation and modernization initiatives. For example, when users are provided with a self-service portal to provision VMs, processes need to be in place to track resource utilization. Governance needs to be built in to such efforts, alongside any automations created to streamline and accelerate infrastructure or application changes, in order to avoid overspending, overallocating, or otherwise deterring from stated objectives.

Example 3:

A healthcare organization planning to use automation to help manage security compliance will need to ensure handling of patient data is compliant with all Health Insurance Portability and Accountability Act (HIPAA) regulations, such as the rule that requires physicians to protect patients' electronically stored, protected health information by using appropriate administrative, physical, and technical safeguards to ensure the confidentiality, integrity, and security of this information. So, automated provisioning of a secure database housing protected health information will need to be closely coordinated with compliance plans. Many organizations, in and outside of healthcare, have requirements equally as stringent as HIPAA to comply with; it's critical to be aware of and accommodate these as you plan any automation efforts.

Best practices to follow

The first order of business when formulating your IT automation strategy is to take a holistic approach and remember that automation is very much a journey. Here are best practices to follow as you begin:



1.

Perform a thorough review of your existing processes and how well they are working now, to begin identifying where automation can work best for your organization. Automating the wrong processes won't deliver the ROI you're expecting.



4.

Don't forget people are as important as the processes.

Automation will change the nature of work, in ways both big and small. Be sure to get buy-in by including employees in all the phases of your automation journey. They should understand the plan and what it means for them. And make sure you have the skills necessary to execute automation.



2.

You can't simply give a team an automation tool and expect success. **You'll need to map your long-term vision** and properly align people and processes. Remember, not everything is a candidate for automation.



5.

Be sure to break down any existing operational and cultural silos between teams, especially where close collaboration is necessary. For example, projects that automate security should be aligned with projects to automate application development and management.



3.

Start small. Trying to execute a complete infrastructure automation initiative is a mistake, with a higher risk of failure.



6.

Make sure you're prepared by ensuring you have all the necessary resources on hand and picking the right automation tools for your organization.

Summary

Adopting various IT automation technologies can improve operations by removing human error and reducing the risks associated with configuration drift. Plus, with certain processes automated, your IT teams will be able to direct their focus to more meaningful, innovative work, improving your enterprise's capacity for additional modernization.

Set your organization up for automation success with the tools and resources available to you from the experts at Insight Cloud + Data Center Transformation (CDCT). Our team of business consultants and IT professionals carry thousands of certifications from every major technology vendor so that we can support your efforts across the spectrum of automation possibilities, including deployment of hybrid cloud, security, networking, and application solutions, implementation of Infrastructure as Code (IaC), and much more.

To talk with an expert on how to approach automation as part of your overall strategy for modernization, or to discuss ways we can help you strengthen your existing automation efforts, contact us at: insightCDCT.com/contact-us

Further reading and recommended resources:

Visit the links below to learn more about how Insight CDCT can help you on your path to automation and business transformation.

- Whitepaper: [“Automation: The Key to a Successful Hybrid Cloud”](#)
- Webinar: [How to use Ansible to Automate Your Infrastructure](#)
- Whitepaper: [“Master Your Environment: 6 Key Changes in IT and How to Use Them to Your Advantage”](#)
- Video: [Top challenges with DevOps and agile](#)

¹ The State of IT Modernization 2020. (February 2020). Marketpulse Research by IDG Research Services, commissioned by Insight.

² Smarter With Gartner, “Gartner Predicts the Future of AI Technologies,” February 5, 2020.

³ Smarter With Gartner, “Top 10 Trends Impacting Infrastructure & Operations for 2020,” December 10, 2019.

⁴ Gartner, Predicts 2020: RPA Renaissance Driven by Morphing Offerings and Zeal for Operational Excellence, Biscotti, F., Dunie, R., Karamouzis, F., Miers, D., Ray, S., Shotton, L., Stoudt-Hansen, S., Sturgill, N., and Villa, A., December 10, 2019.

From assessment and strategy to development and deployment, Insight has the expertise to help identify and implement the best-fit tools for your automation project.



Kubernetes: Open-source container orchestration for automated application, deployment, scaling, and management



Ansible: Open-source IT automation for software provisioning, configuration management, and application deployment



Terraform®: Open-source Infrastructure as Code tool for defining and provisioning data center infrastructure



Splunk: A software platform empowering IT, security, and DevOps professionals to assess, analyze, and act on data



Puppet: Open-source configuration management for building, managing, and automating IT infrastructure

©2020, Insight Direct USA, Inc. All rights reserved. All other trademarks are the property of their respective owners.
SWA-WP-1.0.06.20